Methods, Systems and Devices for Optimizing Cardiac Pacing Parameters

Abstract

Cardiac performance associated with a current set of N pacing parameters is improved by adjusting the cardiac pacing parameters until optimal or substantially optimal cardiac performance is achieved. The cardiac performance associated with the current set of N pacing parameters is determined. An incrementing step, a determining step, and a increment updating step, are repeated for i = 1 to N, where i represents which of the N pacing parameter is being adjusted. The incrementing step includes incrementing an i^{th} pacing parameter in the current set of N pacing parameters based on a corresponding i^{th} increment value, to thereby produce an i^{th} set of test pacing parameters. The determining step includes determining a cardiac performance associated with the i^{th} set of test pacing parameters. The increment updating step includes updating the i^{th} increment value based on the cardiac performance associated with the i^{th} set of test pacing parameters. Finally, after all of the N increment values have been updated, the current set of N pacing parameters is updated based on the updated increment values. The updated current set of N pacing parameters should provide superior cardiac performance than the previous current set of N pacing parameters.